long distance. The RBOCs generally suggest that they will be disadvantaged unfairly if their entry into interLATA long distance is delayed after the IXCs begin to provide local service. This argument is without merit. One must consider carefully why there may be a customer preference for one-stop shopping. Consider three possibilities:

> 1) The consumer wants "one-bill" service. The RBOCs have the power today to make one-bill service work for their customers. By pricing their billing services reasonably, RBOC local service offerings can remain billed in conjunction with those of the IXCs, and the RBOCs should not be inefficiently harmed in local service competition for customers with a preference for receiving only one telecommunications bill. The prices for the RBOCs' billing services may have to be reduced, but that merely reflects the beneficial effects of competition on the now excessive prices the RBOCs are able to charge for their billing services.
>
> 2) A preference for one-stop shopping might be based on various possible discount plans or price structures that encourage bundled purchases of local, long distance, and other services. Such pricing can be efficient. As discussed above in the context of access price reform, however, the major issue here arises if RBOCs are permitted to offer long-distance service before access price reform. Then the RBOCs can offer various attractive pricing plans (including price plans that bundle long-distance and local services) to all their customers, whereas entrants can only do so for customers they serve with their own switching facilities.[46] The out-of-pocket costs for a RBOC are far lower than the out-of-pocket costs for an IXC because of the large differential in each

[46]Delaying RBOC entry would give IXCs a pricing advantage only with respect to the small fraction of customers who they will serve with their own switches. Suppose after one additional year of local service competition, 2% of the customers in an RBOC's territory are served by someone else's local switch. If the RBOC is allowed to offer in-region interLATA service now, it will have a strategic pricing advantage for 98% of the customers. If the RBOC's long-distance entry is delayed, its rivals will have an advantage for only 2% of the customers. In a perfect world, society would not have to accept either inefficiency. However, as long as the Telecommunications Act is interpreted as requiring that the interLATA authority be granted or denied on a state-by-state basis, then, given the choice between the two distortions, there are two reasons to delay RBOC's entry. First, the distortion associated with delaying RBOC entry is far smaller than the distortion associated with permitting entry now. Second, local service is now monopolized, whereas very substantial competition exists in long distance. Thus, encouraging additional local entry is more important to society than allowing immediate additional entry into long distance.

company's true, private cost of access. Therefore, for all customers who cannot be reached by the IXC's facilities in such a way that allows the IXC to avoid paying access charges to the RBOC, the RBOC will have a substantial advantage in structuring attractive pricing plans. This advantage creates at least three problems. First, such an advantage could allow an inefficient RBOC to succeed in long-distance competition against a more efficient IXC solely because of the differential costs of access. Second, competition among facilities-based providers of one-stop shopping is necessary in order to maximize consumer benefits. If only the RBOC provides one-stop shopping, it will keep as profits much of the consumers' perceived benefit for one-stop shopping. Those profits can only be competed away when substantial facilities-based entry occurs. Third, to retain the competitive advantage against other long-distance carriers it gains from being solely able to more efficiently price bundled services, the RBOC's incentives to restrict the development of local competition are increased, since the RBOC is now the incumbent "first-mover" in both local and bundled services. Facilities-based local competition attacks both incumbencies.

3) A market preference for one-stop shopping might evolve to reduce "finger pointing" among multiple suppliers over service, maintenance, etc. This is a "Williamsonian" transaction cost argument,[47] and it is based on a failure of third parties (such as courts or regulators) to efficiently resolve contractual disputes. Given contractual failure, vertical integration occurs. But the RBOCs can't have it both ways. They argue that regulation will work very well and, therefore, they will not be able to discriminate in service quality, maintenance, etc. This presumes that either the courts or regulators will efficiently administer the "contracts" governing the sale of inputs by the RBOCs to their local competitors and to their long-distance customers. If these contracts are efficiently enforced, this reason for vertical integration is not present.[48] If the transactions costs advantage of vertical integration is real,[49] then the RBOCs' arguments

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[47]See Oliver Williamson, Markets and Hierarchies: Analysis and Antitrust Implications, New York: The Free Press (1975).

[48]Consumers may want a single point of contact for their telecommunications needs. If contracts work well, that point of contact need not be vertically integrated. In principle, either an RBOC or an unintegrated IXC could be the single point of contact and provide bundled service to its customers. The IXC would assemble its bundle by contract. However, if contracts don't work well, then customers only get efficient service from suppliers who are vertically integrated on a facilities basis.

[49]We do not suggest that vertical integration is necessarily efficient even if the transactions costs economies are real. One reason why consumers might prefer an integrated seller is if they know that, due to pervasive discrimination by a vertically integrated input monopolist, all

about efficient regulation are incorrect. And it will then be the competing IXCs and their customers, and not the RBOC, who would suffer the competitive disadvantage if RBOCs can provide interLATA service before facilities-based local competition is widely established.

65. In fact, it is the RBOCs who will have major advantages in competing for customers who prefer to purchase a bundle of services if the RBOCs are allowed into long-distance service before meaningful local competition develops. The RBOCs will be able to take advantage of a very well functioning wholesale market for long-distance capacity to offer immediately a bundle of services to their customers. They will not need the cooperation of any particular IXC to serve such customers. In contrast, of course, MCI's ability to offer a bundle of local and long-distance services will, for the near term, be almost entirely dependent on the nature of the cooperation for both local and long-distance services that it receives from the RBOCs. With premature interLATA entry, the RBOCs will be the sole provider of bundled local long-distance service, and we should expect that bundle to be sold at the monopoly price.

V. ANALYSIS OF BELLSOUTH'S ECONOMIC ARGUMENTS CONCERNING TRACK B ENTRY AND REGULATION

68. To briefly summarize our analysis (which is broadly consistent with the economic analysis provided by DOJ in Dr. Schwartz' affidavit), the Commission should rely heavily on a

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unintegrated sellers offer inferior service. One solution to that problem is to ban vertical integration by the input monopolist. This removes the anticompetitive motivation for the monopolist to discriminate among downstream firms.

demonstration that facilities-based competition is irreversibly established. BellSouth's economists reject this position, but on grounds that cannot be defended on any logical basis.

69. They contend that no mix of actual, facilities-based competition needs to be added to regulatory safeguards. BellSouth's economists argue that so long as the South Carolina regulator asserts it can police anticompetitive behavior and efficiently regulate access to BellSouth's local service elements, a proper cost-benefit analysis favors immediate entry by BellSouth into interLATA service in South Carolina. They argue that, on the one hand, there is no potential inefficiency or harm to competition from BellSouth's entry into long distance because regulators and courts, and especially the South Carolina regulator, will efficiently resolve any disputes that arise; and that, on the other hand, there are efficiencies and benefits to the competitive process from allowing BellSouth to provide interLATA service in South Carolina now.

70. But there are neither valid logical nor empirical bases for this conclusion. Let us revisit the steps in the logic of BellSouth's economists.

A. The economic logic in support of Track B authority is not valid.

71. The economic arguments advanced by BellSouth's economists, and in particular by Dr. Woroch, in support of Track B authority are simply incorrect. Dr. Woroch argues that in states like South Carolina, where local entry supposedly will be delayed relative to other states due to demographics and due to the relative absence of business activity that is telecommunications-

intensive, allowing the RBOC into long distance will speed the development of local competition. The argument is based on several assumptions.

72. First, he assumes (paragraph 5) that regulations governing local entry will allow any efficient local service entry using unbundled elements purchased from the RBOCs to occur, and that the various safeguards against discrimination will work. Thus BellSouth has done all it can do to prepare the way for local entry.

73. Second, he assumes (paragraph 18) that, prior to the grant of interLATA authority to BellSouth, the IXCs would refrain from investing in South Carolina either because the purely local investments are not profitable, or because the IXCs are collusively refraining from local entry in order to prevent BellSouth from entering long distance. However, if BellSouth is allowed to provide interLATA service, Dr. Woroch assumes the major IXCs will then invest in their own local facilities.

74. Dr. Woroch's prediction that the IXCs will commence facilities-based entry into local service only after BellSouth is allowed into long distance could be true for one of three reasons.

a) The IXCs know they will then be discriminated against as long-distance carriers. So long as BellSouth is excluded from interLATA service, it cannot act on its incentives for internal favoritism (and therefore the IXCs have less interest in local entry in low density areas like South Carolina than in other parts of the country). But once BellSouth gets interLATA authority for

South Carolina, each IXC sees greater profit in local entry in South Carolina in order to avoid, as best it can, the discrimination that will soon follow. This reason for IXC entry, obviously, is valid only if regulation cannot efficiently prevent discriminatory behavior, in contradiction to Dr. Woroch's first assumption.

b) The IXCs may be collusively avoiding local entry. Dr. Woroch does not explicitly claim that the absence of significant, facilities-based local competition in South Carolina is due to collusion among the IXCs,[50] but we see no way, absent collusion, to reach his conclusion on a logical basis. To be clear, we are saying that collusion is a logical possibility: However, it is not consistent with the facts.[51] For one thing, all the major IXCs are making significant investments in other states to enter local service. Collusion to avoid local entry should be more profitable in states with denser populations and more telecommunications-intensive businesses. Because significant resources are being spent by the IXCs to enter in these areas, collusion can hardly explain the very low levels of investment by the IXCs to provide local service in South Carolina.

[50]Indeed, Dr. Woroch argues that local service entry is far less attractive in South Carolina than elsewhere, which, if true, would make it implausible that collusion by the IXCs explains the absence of local competition in South Carolina.

[51]MCI's projected losses this year for its local service business are about $800 million. And MCI had to spend far more than that in total entry costs to lose the $800 million. The magnitude of these losses was viewed by the stock market as evidence that local telephony was going to be far more expensive to enter than was previously thought. We strongly doubt that any reasonable court or regulator, after examining the facts, would conclude that MCI has pulled its punches by avoiding profitable entry into local telephony.

c) It might be thought the IXCs would feel forced to invest defensively in local operations if BellSouth were granted interLATA authority even though such investments were not profitable before. Dr. Woroch believes that (paragraph 17) the ability to jointly market, or provide one-stop shopping, makes the RBOCs especially potent potential competitors. But an IXC could realize the benefits of one-stop shopping by entering local service today. The fact they have not done so means that the benefits from the investment (increased future profits due to bundling) are less than the costs that would have to be incurred to be able to offer a facilities-based bundle. The IXCs may choose to respond to BellSouth's entry in some way, but there is no reason the response would include a strategy (investing in local facilities) that was available to them, and rejected as not profitable, before. The IXCs today compete with each other on pricing, quality, promotions and advertising, and other dimensions. Any response to interLATA entry and bundling by BellSouth would be chosen from among these previously used strategies, and not strategies previously rejected as not profitable. Dr. Woroch offers no reason why the IXCs' response will necessarily include investing significantly in their own local service facilities in South Carolina.[52]

[52]Indeed, the danger of premature entry by BellSouth in South Carolina is that future local service investments by the IXCs and other CLECs will be rendered unprofitable when such investments might otherwise have become profitable. The costs of local entry are supposed to decline over time as the RBOC implements the required market-opening measures, and moves down the learning curve to make the UNE and resale processes work better and cheaper. If BellSouth gets the carrot of interLATA authority too soon, its incentives to make the UNE and resale processes work better are reduced substantially.

75. Third, Dr. Woroch argues (paragraph 19) that one need not believe the IXCs are pulling their competitive punches in local service to warrant Track B authority. He argues that CLECs without long distance businesses, and therefore without a strategic incentive to forbear from local entry, will nonetheless hold back on local entry. They know that if they enter, BellSouth will get Track A authority, which will lead in turn to facilities-based local entry by the IXCs. Because the South Carolina market probably cannot support that many local competitors, the IXCs' local entry will destroy the value of the non-IXC CLECs' investments. Recognizing this chain of events, other CLECs won't enter in South Carolina. Therefore Track B authority is necessary to get local service competition started in South Carolina.

76. This logic is also incorrect. Dr. Woroch ignores several ways the first CLEC to enter can profit if the IXCs later decide they need local service alternatives. The IXCs could purchase services from the CLEC and resell a bundled service. One or more IXCs could enter into a joint venture with the CLEC. Or an IXC could buy the CLEC, and possibly sell its services to other IXCs. Dr. Woroch assumes none of these options (all of which would increase the value of the first CLEC's investment) will happen. Rather he assumes the IXCs' only option is to invest in their own facilities. Given the enormous sunk costs necessary to enter local service with one's own facilities, and assuming (with Dr. Woroch) that small local markets like South Carolina's cannot support three or more facilities-based local competitors, there are gains from trade between the first CLEC to invest and the IXCs. We would therefore expect that the first CLEC will either sell its services to the IXCs or integrate partially or completely with one of the IXCs.

To believe otherwise, at least under Dr. Woroch's assumptions, would require that the IXCs and CLECs act irrationally. In short, the only strategic alternative for the IXCs considered by Dr. Woroch -- facilities-based local entry -- which would in fact reduce the expected return to local service investment by an unintegrated CLEC, is dominated by other, more profitable alternatives for the IXCs that would push other CLECs toward earlier entry. Therefore Dr. Woroch's theoretical prediction -- that even if BellSouth does open its market to efficient local entry, such entry will not occur even by unintegrated CLECs -- is incorrect.

77. Indeed, if BellSouth is correct that in South Carolina and elsewhere its local markets are open to efficient entry, then why haven't the RBOCs and major ILECs from other areas entered? Either the RBOCs have an understanding that they won't enter each other's territories, they are inefficient in the provision of local service, or they believe that efficient entry is not profitable.

B. The reliance by BellSouth's economists on regulation is unwarranted.

78. BellSouth's economists put substantial faith in regulation to prevent BellSouth from acting on its incentives for anticompetitive behavior. This faith is not warranted.

79. First, they uniformly assert that because discrimination by BellSouth against its competition in either the local or long distance markets (assuming it is allowed to enter long distance) is illegal, it simply won't happen. These assertions are quite surprising. There is a substantial law and economics literature on the economics of crime and punishment. To our

knowledge, no contributor to that literature has ever claimed, as BellSouth's economists uniformly do, that merely outlawing an activity, without prescribing adequate penalties for violations of the law, will lead to efficient adherence to the law. We discuss, in Appendix A, some of the basic principles of this literature. The economics literature on the topic starts from the proposition, apparently rejected for no discernable reason by BellSouth's economists, that when assessing incentives to violate the law, one must compare the profits from violating the law with the penalties that are incurred for a violation that was detected. BellSouth's economists uniformly argue that, whether the issue is cross-subsidization or discrimination, BellSouth would refrain from such activity simply because it is illegal.[53]

80. Other RBOCs fully understand the principle that toothless penalties lead to inefficiently low levels of compliance with the law. For example, Ameritech has complained that an FCC ruling favorable to its Ameritech New Media cable television might be a pyrrhic victory because, while the FCC found that a programming entity owned by a major incumbent cable multi-system operator ("MSO") discriminated against Ameritech's cable television operations, the lack of a substantial financial penalty for the illegal activity renders the decision ineffective in deterring future violations:

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[53]The theory of law and economics according to BellSouth's economists, of course, suggests an obvious solution to the alleged problem that the IXCs are delaying profitable entry into local service in order to preserve even greater profits in long distance — just pass a law saying that the IXCs cannot delay local entry if economic conditions would warrant such entry. However, to ensure a level playing field between the RBOCs and the IXCs we must make sure that any finding by any regulator that any IXC has violated this law carries no meaningful penalty.

> "We're pleased by the FCC's ruling, although it's unfortunate in one respect," said Deb Lenart, president of Ameritech New Media. "The fact that Rainbow was not penalized for breaking the law reinforces what we've been saying all along - that the program access rules need some meat on the bone. Without the risk of incurring financial penalties, companies have little incentive to follow the rules."[54]

81. Second, BellSouth's economists (as well as BellSouth) have internally inconsistent views on the efficacy of regulation. Their views on regulation seem to depend critically on whose ox is being gored. When the issue is whether regulation can prevent the RBOCs from acting on their incentives to discriminate or cross-subsidize (i.e., when regulatory failure results in the IXCs' oxen being gored), BellSouth and its economists argue that regulators are extremely competent and efficient. However, when considering how the FCC has chosen to implement the unbundling requirements of the 1996 Telecommunications Act (where the RBOCs view their oxen as being gored by prices that are too low), the FCC and state regulators who agree with its costing principles are grossly incompetent. The clearest example of the conflict is provided by the views of Dr. Hausman. He argues that the TELRIC methodology (advocated by the FCC, DOJ, and many states) for pricing unbundled network elements is likely to understate the true costs by 200 to 300%.[55] So when costing out network elements, regulators (or at least many regulators) are grossly incompetent. However, when it comes to analyzing the cost issues

[54]Ameritech New Media press release, September 25, 1997.

[55]See *Reply Affidavit of Jerry A. Hausman*, In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC-Docket No. 96-98 (May 1996).

relevant to cross-subsidization or discrimination, regulators are quite competent, and there is no risk that anticompetitive behavior will not be immediately detected.[56]

82. Third, BellSouth's economists do not address at all the major discrimination concern that we and Dr. Schwartz for DOJ have identified. Even if antidiscrimination regulation works acceptably at times when technology is stable, as technology changes, the ability of regulators to prevent discrimination is dramatically reduced. And regulation cannot be expected to induce vertical cooperation that may be necessary to plan and implement a change in technology. BellSouth's economists choose to focus only on whether equal access rules are working well in the current technical environment (see Dr. Hausman's declaration at paragraph 40 and Dr. Gilbert's affidavit at paragraphs 48-50). They approvingly cite Dr. Schwartz' opinion that to date there does not appear to have been discrimination in access by other LECs who have entered interLATA service, and conveniently ignore Dr. Schwartz' and our view that antidiscrimination regulation is inherently prone to failure as technology changes. This allows them to escape the logical conclusion that follows — for local competition to be irreversibly established, substantial facilities-based entry is necessary.

[56]See *Declaration of Professor Jerry A. Hausman*, filed on behalf of BellSouth in CC Docket No. 97-208, at 23-27 (Sept. 26, 1997) (section IV, entitled "Regulation Eliminates Hypothetical Competitive Distortions as a Significant Concern").

83. Fourth, BellSouth's economists incorrectly conclude that there is no problem with interim rates for unbundled elements because customers in transactions covered by the interim rate will not have to pay a higher final rate for past transactions, if the South Carolina Public Service Commission ends up selecting a final rate higher than the interim rate. But this price protection covers only a small part of the problem. A CLEC must sink costs in its own operations, even where it is relying on unbundled network elements purchased from the ILEC. Local facilities are long-lived assets. The return to investment, and therefore the incentive to invest, depends on input prices over the life of the investment. Consider an asset with a ten year life. Suppose that a CLEC invests today in South Carolina. It knows the interim rate for inputs purchased from BellSouth applies until a final rate is promulgated. Suppose that the final rate will be known in one year. Then the entrant has price protection at the interim rate for one tenth of the life of its local service investment. It faces input price uncertainty over the other ninety per cent of the asset's life. The price protection required by the South Carolina commission has some value to entrants, but that value is quite limited. It is certainly not sufficient for the FCC to change its policy of requiring that final rates, and not interim rates, be in effect before a section 271 application is granted.

84. Fifth, Professor Schmalensee (paragraphs 38-48) contests the view that access charge pricing distortions should be corrected before the RBOCs are allowed to enter long distance. However, despite the fact that Professor Schmalensee promises to address the various reasons that have been advanced for this sequencing, he simply ignores our argument (discussed here in

section III, but which has been presented previously in other federal and state section 271 proceedings) for requiring access price correction before allowing the RBOCs to enter long distance.

VI. SUMMARY

85. The line of business restrictions in the MFJ were based on the incentives for the RBOCs to enter markets adjacent to their bottleneck local exchange operations in order to evade the constraints regulators were placing on their prices and profits in local exchange services. In our view, the public interest consideration in section 271 still requires substantial, facilities-based competition before the RBOCs should be allowed to provide interLATA long-distance service. At that point, competitors in adjacent markets (long distance) no longer need rely exclusively for an essential input on firms with strong anticompetitive incentives.

86. InterLATA long distance is not the only business that can be adversely affected by a premature grant of interLATA authority. The Telecommunications Act of 1996 opens local exchange markets to competition. Premature interLATA authority will give the RBOCs a greater ability to engage in behavior that can foreclose or delay local competition, such as signing up important customers to long-term contracts for bundled services, cutting prices selectively to customers most likely to patronize new entrants, raising customer switching costs, and sabotaging attempts by new local competitors to rely in part on Ameritech's facilities as they begin to provide local service.

87. Exactly what "substantial, facilities-based competition" means could be a matter for debate in future section 271, Track A applications: The early-entry view would emphasize a little actual facilities-based entry, with the potential for rapid expansion relying on unbundled network elements purchased from the RBOCs. There are two serious problems with this view. First, because BellSouth's procedures governing the purchase of unbundled elements are still in flux and have not been widely provided to local service entrants anywhere in its service territory, let alone in South Carolina, it is not possible to reach informed judgments about entry and fringe supply elasticity that relies on unbundled network elements. We should not now presume that local competition can develop rapidly, when actual experience in the near future can provide an empirical basis for making an informed judgment. Second, the pricing principles for and the final pricing of unbundled network elements have not been established by the South Carolina commission. If the final terms are less conducive to economic purchase of unbundled network elements than the current interim terms, then regulators may well find themselves in the position where an interLATA application was approved based on current arrangements but would have been denied if based on the more permanent conditions. Thus, even if regulators are far more optimistic about the ability of state and federal regulators to manage competition efficiently through regulation of unbundled elements than we are, it is clear that no informed decision can now be made about the potential for competition based on unbundled elements in South Carolina.

88. BellSouth's economic argument for Track B authority is completely unpersuasive. The argument depends critically on the IXCs accelerating their local entry in response to a grant of Track B authority in order to ameliorate the costs to them of discrimination by BellSouth. Yet BellSouth also argues that there will be no discrimination because regulation will prevent it. BellSouth's explanation for why entry in South Carolina by CLECs other than the IXCs has been inconsequential is incorrect. BellSouth argues that the value of these CLECs' local investments would be reduced by any IXC interest in local service that might follow a grant of interLATA authority to BellSouth. Therefore these CLECs are said not to be investing even though the investments, but for the fear of later local entry by the IXCs, would be profitable. This argument assumes that the IXCs would enter local telephony only with their own facilities. However, the profits to the CLEC from selling services to the IXC, joint venturing with an IXC, or being acquired by an IXC are completely ignored. Thus BellSouth's economic argument for Track B authority is built on incorrect and, in some cases, internally inconsistent assumptions.

89. Finally, the South Carolina application is also premature when judged against the "carrot" rationale for interLATA entry. BellSouth's incentive to cooperate in making unbundled elements available at cost-based rates derives entirely from the prospect of being allowed to provide interLATA service. Its business incentives are entirely the opposite -- firms generally do not want to reduce the costs others must incur to enter their markets, and BellSouth is no different. If BellSouth gets its reward (or gets and eats its carrot) before regulators can judge how well the procedures governing competitors' access to unbundled elements actually work in

practice, regulators will have no benchmarks against which to judge BellSouth's subsequent behavior derived from a time when it had at least some incentive to cooperate.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on

October 17, 1997.

Kenneth C. Baseman

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on

October 17, 1997.

Frederick R. Warren-Boulton

APPENDIX A

Why Traditional Regulation Will Likely Be Ineffective in Controlling Anticompetitive Behavior

1. The tools and traditions of regulators are less well suited to disciplining incumbent resistance to opening up local markets to competition than to dealing with traditional regulatory issues in an unchanging regulated environment. Traditional regulatory tools may work well when dealing with issues such as revising the price for local exchange service to a particular class of customers in a stable economic environment. A traditional regulatory approach is likely to be inadequate, however, when both entrants and consumers are affected by the incumbent's compliance decision, when incumbent decisions can impose irreparable harm, or where detection and punishment for bad acts are not certain (implying optimal penalties that are a multiple of the harm in cases where violations are detected).

2. To illustrate, let us begin with an example where regulation is least likely to result in error, and then relax some critical assumptions.

(A) Traditional regulation of consumer prices charged by a regulated monopoly: Remediable harm with eventual regulatory certainty.

3. Many regulators have allowed rate increases to go into effect subject to review. If the review shows that the rate increase was not warranted, then the firm is ordered to refund the excess charges on the quantity actually purchased by the consumers. This procedure can work fairly well because: (a) only consumers are affected by the initial overcharge, (b) consumers may

have purchased little more at the lower price,[1] (c) the harm to consumers and society is easily reparable (except for the aforementioned difference in quantities) through future refunds, and (d) the probability of detection is high (i.e., the regulator eventually selects the "right" price, based on regulatory principles, after its review). Importantly, the regulated firm has no incentive to restrict consumers' purchases through non-price rationing devices. That is, the firm knows a higher price will induce lower unit sales, but the firm wants consumers to buy as much as they demand at the higher price.

(B) Irreparable harm, with eventual regulatory certainty.

4. Let us now change the example to an interconnection decision, or to a case where the LEC tries to restrict the quantities of UNEs purchased by entrants. We continue to assume that ILEC refusal is frivolous, in the sense that the RBOC believes that it will eventually be required to interconnect, or provide the quantity of UNEs that entrants demand. Under these conditions, it becomes much more likely that the penalty imposed will fail to fully reflect the harm to the rest of society, since the parties harmed include not only the entrant (or potential entrants) but also a multitude of dispersed consumers that would have benefitted from increased competition. As a

[1]This is especially true if the price is a monthly lump-sum price, as in the monthly rate for unlimited local service. In that case, customers' quantities of minutes will not be affected unless they drop service due to the rate increase. The available empirical evidence indicates that the demand for local service is very price inelastic, so the difference in quantities chosen at the higher and lower prices should be small.

practical matter, the harms to both consumers and potential entrant(s) will be difficult to estimate accurately, and many consumers will be unaware of the harm they have suffered, making it difficult and expensive to identify and compensate them. (Analogous problems that lead to irreparable harm arise in antitrust class action cases.)

5. Since entry reduces total profits and increases total welfare, the gain to a monopolist from deterring entry exceeds the gain to the entrant from entry, but is less than the gain to the entrant plus the gain to consumers. The appropriate amount to charge the ILEC when it finally must comply is the present value (including interest) of the effect on the rest of society; i.e., the lost profits to the entrant plus the loss of consumer surplus to consumers. We can rank the effects of non-compliance quantitatively as:

-the harm to entrant plus harm to consumer is greater than

-the gain to ILEC, which is greater than

-the harm to entrant.

It follows that even completely compensating the entrant for the effects of delay will provide insufficient incentives for the ILEC to comply, and lead to harm to competition and to consumers.

(C) Irreparable harm, with continuing regulatory uncertainty.

6. Whenever the probability of detection and punishment is less than one, the optimal

penalty to be imposed when a violation is detected and punished is a multiple of the harm caused: in its simplest formulation (i.e., assuming no false positives) the optimal penalty is:

$$F^* = H/R$$

where F^*= optimal penalty, H= harm to the rest of society, and R = probability of detection and punishment.

7. As discussed generally above, however, many acts an ILEC undertakes to inhibit entry into the local exchange may go undetected or unpunished. Thus optimal compliance requires that, when intentional violations are detected and punished, the penalty should be a multiple of the harm caused. Unfortunately, given the complexity of these decisions and the informational asymmetry between the ILEC and regulatory bodies -- and even between the ILEC and the entrant -- establishing clear intent often may be very difficult. Therefore, compliance can only be ensured by imposing truly draconian penalties when clear intentional violations are identified. To the extent that regulators would be unable or unwilling to impose such draconian penalties -- or, even more obviously, when cases of clear intent are never identified -- regulatory sanctions are unlikely to be sufficient to ensure optimal compliance.

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